

REMARKS

The Office Action of October 9, 2008 and the references cited therein have now been carefully studied. Reconsideration and allowance of this application are earnestly solicited.

The undersigned wishes to thank Examiners Smith and Wu for graciously conducting an interview with the undersigned on March 5, 2009. The issues discussed during this interview will be described in the Remarks section of this Amendment.

The Examiners' indication that claims 3, 4, 6, 7, 9, 12-28, 30 and 31 would be allowed is certainly appreciated.

The Examiner has rejected claims 1-2, 5 and 58-74 under 35 USC 103(a) as being unpatentable over the article to Starr in view of the patents to Haruch and Tognazzo. This rejection is respectfully traversed.

The present invention is directed to a method of ultrapurifying fumes or gases with the total recovery of the resultant pollutants. This is accomplished by the use of a snow wash chamber 20, in which unpolluted water, as well as cold carbon dioxide is fed to the upper portion of this chamber. The upper portion of this chamber is rapidly cooled, thereby producing a plurality of snowflakes having a relatively large surface area. It is important to note that no water droplets are provided in the snow wash chamber, below the portion in which the snowflakes are produced. A flow of fumes or gases and moisture containing micropollutants are introduced to the snow wash chamber 20 from a washer 2. The fumes or gases and moisture are introduced to the snow wash chamber at a level subsequent to the production of the snowflakes therein. Therefore, when the snowflakes falling freely hit this flow of fumes or gases and moisture, they capture the micropollutants by crystallization of the humidity contained therein and their volume increases. When these snowflakes englobing the micropollutants reach the bottom of the snow wash chamber 20, they are extracted and the resultant polluted water is fed to a gasifier.

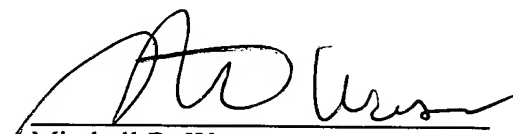
The article to Starr is directed to an experiment in which airborne particles are captured by water drops and simulated snow crystals, as specifically recited in the title of that article. It is important to point out that the experiment utilizes a tube containing snow crystals along with water droplets. A cloud of particles is then injected into this tube. The result of this action would only be a partial capture of the micropollutants and would not act as an ultrapurifying process. This is due to the fact that the pollutants are captured by a mixture of water drops and snow crystals, creating a spray in which the snow crystals are saturated with water and are unable to capture all of the pollutants.

Similarly, the patent to Haruch is directed to a device for producing ice crystals

from outside of a nozzle orifice. Specifically recited in column 6, lines 8-12 "Thus, when this nozzle is utilized for making snow the chosen spray pattern exists [sic] from the nozzle orifice 68 and freezes immediately into minute ice crystals for spraying onto a ski slope or run." Therefore, the Haruch reference describes a situation in which water is atomized to produce the ice crystals. This is certainly not similar to the technology utilized in the present invention and, as is true with respect to the Starr reference, ice crystals are produced instead of the snowflakes utilized in the present invention. It is important that the fumes or gases and moisture be directed to snowflakes due to the relatively large surface area contained therein when compared to ice crystals. Applicant has amended this application by cancelling claim 1 and submitting a new claim 75, which specifically recites a process in which the snow producer (the snow wash chamber 20) only produces snowflakes and water is not contained therein in contradistinction to the Starr reference in which a flow of particulates subjected to a combination of water droplets and ice crystals. Additionally, claim 75 specifically recites the fact that the snowflakes are produced by the sudden cooling of unpolluted water to a temperature substantially below 0°C. There is absolutely no recitation in either the Starr or Haruch reference indicating that temperatures substantially below 0°C are utilized. Consequently, reconsideration and withdrawal of this rejection are respectfully urged.

The present Amendment amended several claims to change their dependency from canceled claim 1 to newly added claim 75. During the course of the above-noted interview, it was agreed that the subject matter in claim 75 was not anticipated or rendered obvious by the prior art cited by the Examiner. All additional claims in this application were indicated to recite allowable subject matter. Therefore, it is believed all of the claims now in this application do recite the invention in a patentable manner and should be allowed.

Respectfully submitted,


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